T O U R I S M

STANDARDIZED TOURISM DATA FRAMEWORK

RESEARCH GUIDE

ECONOMIC & REGIONAL DEVELOPMENT AGREEMENT

Canada

BC

76701

For additional copies of this publication and/or further information about the Canada-British Columbia Tourist Industry Development Subsidiary Agreement, contact:

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STANDARDIZED TOURISM DATA FRAMEWORK

RESEARCH GUIDE

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DEREK MURRAY CONSULTING AND ASSOCIATES INC.

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The responsibility for the content of this report is the consultant's alone, and the conclusions reached herein, do not necessarily reflect the opinions of those who assisted during the course of this investigation or the federal and provincial governments which funded the study.

Government of Canada / Gouvernement du Canada

Regional Industrial Expansion / Expansion industrielle regionale

British Columbia
Ministry of Economic Development

Tourism
Recreation and Culture
HON. BILL REID, MINISTER

INFORMATION SOURCES
(used in developing this manual)

The development of this manual has drawn on two major sources of research techniques:

Enjoying Research: A How-To Manual on Needs Assessment Research by Diane Abbey Livingston and David S. Abbey

and

Mail and Telephone Surveys: The Total Design Method by Don A. Dillman

Researchers are encouraged to consult these excellent reference sources for more detailed information regarding research design.

TABLE OF CONTENTS

1.0 **INTRODUCTION** 1-1

2.0 **THE ROLE AND IMPORTANCE OF MARKETING RESEARCH** 2-1

2.1 INTRODUCTION 2-1
2.2 PURPOSES OF MARKETING RESEARCH ACTIVITIES 2-1
2.3 THE RESEARCH DECISION-MAKING PROCESS 2-2
2.4 STEPS IN MAKING NON-ROUTINE DECISIONS 2-2

3.0 **THE ROLE AND IMPORTANCE OF INDUSTRY RESEARCH** 3-1

4.0 **DATA COLLECTION METHODS** 4-1

4.1 INTRODUCTION 4-1
4.2 SECONDARY ANALYSIS 4-1
4.3 OBSERVATION 4-6
4.4 EXPERIMENTS/PRODUCT TESTING 4-6
4.5 FOCUS GROUPS 4-7
4.6 INQUIRY RESEARCH 4-7
4.7 SURVEYS 4-8

5.0 **SPECIFIC GUIDELINES FOR MAIL QUESTIONNAIRES AND TELEPHONE INTERVIEWS** 5-1

5.1 INTRODUCTION 5-1
5.2 COMMON ERRORS IN QUESTIONNAIRE DESIGN 5-4
5.3 QUESTIONNAIRE CONSTRUCTION 5-7
5.4 THE MAIL QUESTIONNAIRE — DESIGN CONSIDERATIONS 5-9
5.5 THE TELEPHONE QUESTIONNAIRE — DESIGN CONSIDERATIONS 5-14

TABLE OF CONTENTS
(Continued)

Page

6.0 **SAMPLING** 6-1

6.1 KEY CONCEPTS OF SAMPLING 6-1
6.2 TYPES OF SAMPLING 6-1
6.3 HOW TO SELECT THE MOST APPROPRIATE SAMPLING METHOD 6-3
6.4 HOW TO CALCULATE SAMPLE SIZE 6-5
6.5 SAMPLING ERRORS 6-6

7.0 **ANALYSIS AND INTERPRETATION** 7-1

7.1 INTRODUCTION 7-1
7.2 DATA PROCESSING 7-1
7.3 ANALYSIS CONSIDERATIONS 7-1
7.4 PRESENTATION OF DATA 7-3
7.5 THE FINAL REPORT 7-7

8.0 **USING AN OUTSIDE RESEARCH SUPPLIER** 8-1

8.1 ADVANTAGES OF USING A RESEARCH SUPPLIER 8-1
8.2 GROUND RULES FOR USING A RESEARCH SUPPLIER 8-1
8.3 HOW TO IMPROVE RESEARCH QUALITY WHEN USING A RESEARCH SUPPLIER 8-2

1.0 INTRODUCTION

There are two major types of research — *demand* or *consumer marketing* research and *supply* or *industry* research.

Marketing research focuses on the needs and wants of travelling consumers; whereas, supply side research focuses on the tourism industry itself (i.e. its characteristics, revenues, employment information, etc.). **Consumer** research is used primarily to assist with marketing planning; whereas, industry research is used in the development of inventories, competition analyses and estimating economic impacts.

Data collection procedures *do not differ* for either type of research. Both may use similar approaches to the actual data collection and sampling methods. Differences occur primarily in question content areas and sample sizes.

2.0 THE ROLE AND IMPORTANCE OF MARKETING RESEARCH

2.1 INTRODUCTION

The quality of marketing decisions is dependent on the information available to the marketing decision-maker.

The marketing concept suggests that the resources and activities of a hospitality organization be focused in an integrated way on the needs and wants of the consumer or traveller, not the needs and wants of the organization. Acceptance of this marketing concept implies a central role for marketing research activities.

Marketing research examines the relationship between marketing mix variables (i.e. product, place, price and promotion), situational variables (i.e. government regulations, economic climate, etc.) and consumer response (i.e. purchasing and/or usage behaviours). By identifying the relationships between these variables, marketing research assists marketing decision-makers in determining appropriate courses of action.

The results of marketing research should be combined with the manager's experience and judgement.

2.2 PURPOSES OF MARKETING RESEARCH ACTIVITIES

Marketing research is the systematic collection, analysis and interpretation of information to assist with decision-making and market planning.

Ongoing marketing research should be an integral part of every enterprise's business operations. A well developed marketing research program allows the enterprise to respond to the changing needs of the marketplace. Marketing research enables an organization to:

- Identify target markets;
- Obtain insight into the needs and wants of target markets;
- Identify opportunities and new directions;
- Identify and solve problems in existing operations;
- Assist in long-range planning;
- Assist in short-range planning;
- Stay abreast of trends in the marketplace; and,
- Evaluate marketing objectives.

Marketing research provides the information to develop marketing programs, including advertising and promotion.

2.3 THE RESEARCH DECISION-MAKING PROCESS

There are two types of decisions that managers face on a regular basis. These are routine and non-routine decisions. Routine decisions are based on experience; whereas, non-routine decisions may require research.

Examples of a routine decision are:

- Food and beverage purchasing decisions; and,
- Scheduling of staff.

Examples of a non-routine decision are:

- Identifying new product innovations in the foodservice industry;
- Identifying consumer response to a new product or service; and,
- Identifying success or failure factors in your tourism business.

2.4 STEPS IN MAKING NON-ROUTINE DECISIONS

1) *Define the decision problem.*

- Define and clarify the main issues and causal factors, e.g. if you have identified your business's performance as a decision problem, identify the issues and causes that have led to the identification (see Exhibit 1) of this problem (i.e. are sales down; is employee morale poor; is repeat business lower than expected; etc.).

2) *Identify the information needs.*

- Specify the exact information needs to assist with the decision problem (i.e. what do you need to know to fully clarify the decision problem and identify how to resolve the decision problem).

- Do not get carried away with "nice to know" information.

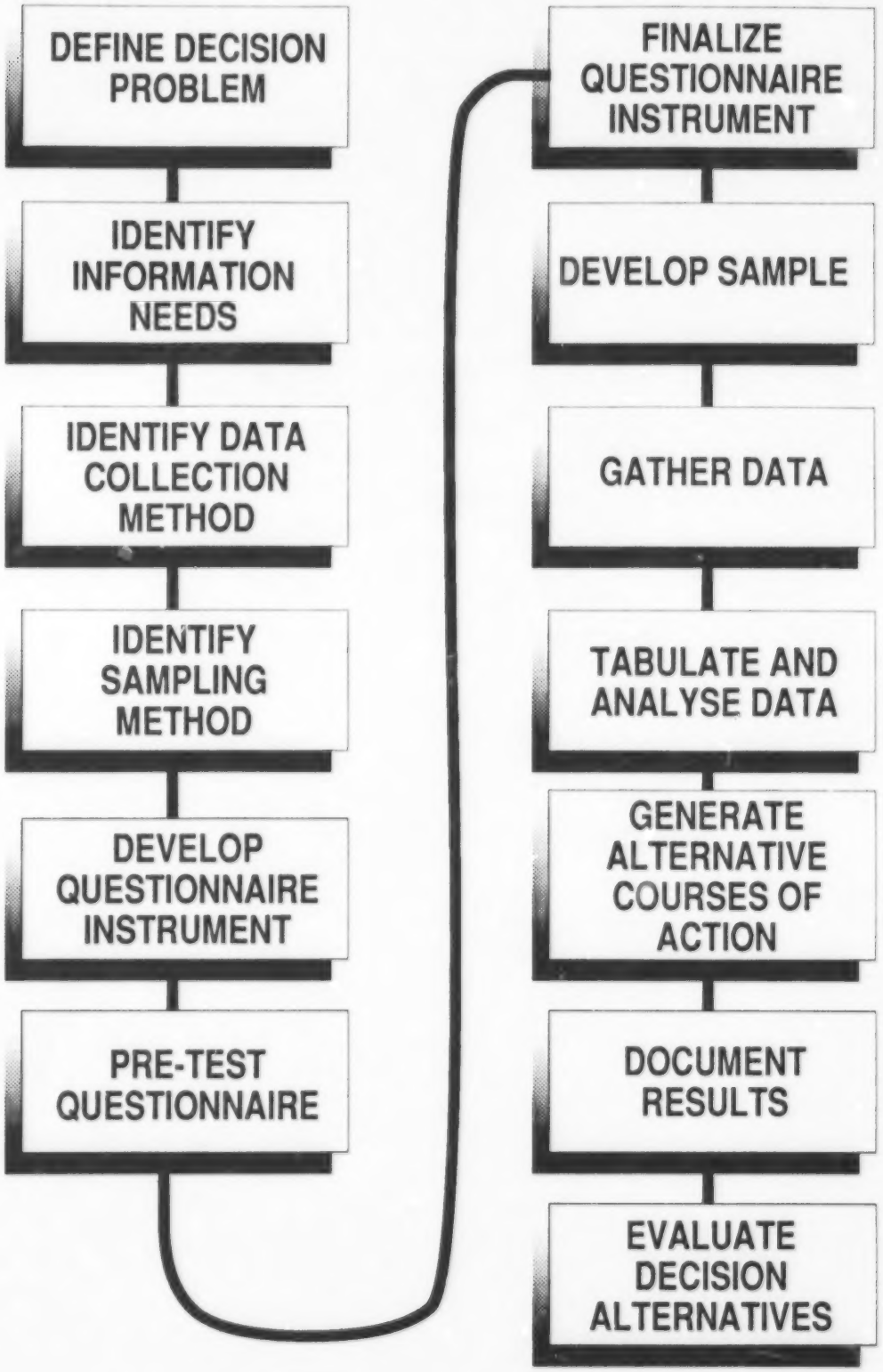
- It is sometimes useful to prepare a variable list, e.g. age of customers, marital status, frequency of dining out, travel party size, magazine or newspaper readership characteristics, etc.

3) *Identify and select an appropriate data collection method.*

- Generate a list of alternatives (see Section 4.0 for details) and select the most appropriate data collection method after evaluating your available resources — time, budget, and personnel.

4) *If you are doing primary research, identify and select the appropriate sampling method and sample size.* (See Section 6.0 for details.)

STEPS IN THE RESEARCH PLANNING PROCESS



5) *Gather your information.*

6) *Tabulate and analyse your information.*

7) *Generate alternative courses of action to solve your decision problem by using creative problem solving techniques* (e.g. if you have identified that the dynamics of your market is changing — perhaps it is aging and is less interested in your product — identify how you might respond to this change in markets.) *Research must be linked to the decision problem to be useful.*

8) *Evaluate decision alternatives based on available resources, i.e. budget, time and personnel.* (You may wish to develop a priority list for when budget or other resources become available.)

9) *Select the most appropriate decision.*

10) *Monitor the decision action over time.*

N.B. Remember research assists only in reducing uncertainty when you are faced with a non-routine decision. Ideally your research should be combined with your experience and judgement when you are making the final decision.

3.0 THE ROLE AND IMPORTANCE OF INDUSTRY RESEARCH

Industry research is usually known as supply side research as it documents and collects information about the industry from industry members (i.e. owner/operators of tourism businesses). Examples of industry research include such things as occupancy monitors/ trends, attendance figures, etc. The findings of the Task Force on Tourism Research identified that supply side research was more accurate than demand side or consumer research in identifying travel volumes and usage figures. This accuracy factor is attributable to records that are maintained by industry members as opposed to the recall of travellers in identifying usage data. Industry members maintain information systems on a wide variety of subjects related to their business; whereas, independent travellers tend to rely primarily on their memory in detailing such things as expenditures, length of stay, etc.

Research with industry members can provide a wealth of information about the tourism industry; however, two major concerns must be addressed by researchers interested in gathering data from industry members/associations. These two issues are:

1) Confidentiality—
Many industry members are reluctant to release information about their business because they are concerned about how this information may be used (i.e. they do not want information released to either competitive industry members or the government). Industry members require assurance regarding the confidentiality of their data (i.e. data will be released at aggregate levels only; therefore, individual operations will not be identifiable); and,

2) Response burden—
With the increasing interest in research, industry members are confronted with many requests for information. Researchers collecting data from the industry must be sensitive to the fact that owner/operators are primarily interested in running their business; therefore, requests for data need to be kept to a minimum and they need to be simple. During the tourist season, owner/operators do not have the time to respond to complex information requests. Whenever possible, secondary data sources should be used to reduce the response burden on industry members.

Types of secondary sources and how to access these data bases have been described in Section 4.0.

4.0 DATA COLLECTION METHODS

4.1 INTRODUCTION

Data collection is the actual gathering of information to respond to information objectives. Data collection may be either primary or secondary. Details of the various primary data collection methods and secondary data collection methods follow.

4.2 SECONDARY ANALYSIS

- Available from "Library searches". Bibliographic searches are provided through a number of computerized retrieval services. Specific searches may be conducted by the **Tourism Research Data Centre** (Tourism Canada), the **U.S. Travel Data Centre**, **Info Globe** (Globe & Mail), **DIALOG** (a data base covering more than 250 subject data bases) and other data bases. (Sample searches using some of these data bases have been provided on the following pages.) In addition to computerized retrieval services, secondary data may be identified by using periodical indices, such as the **Canadian Periodical Index** , **Canadian Business Index** , **Business Periodicals Index** , **Leisure, Recreation and Tourist Abstracts** and others. Most of these periodical indices may be found in your local public library.

- Available from historical documents, statistical reports, records of institutions or companies, government departments (i.e. **Tourism Canada, Statistics Canada and Tourism B.C.**) , and personal documents.

Advantages

- Inexpensive (relatively) as compared with primary research.

- In most cases, readily available, although, when special requests are made of government agencies, sufficient time must be allocated for the production of these requests.

Disadvantages

- Different populations - sometimes the data available through secondary sources provides information about different population groups. For example, you may need data on Vancouver restaurants and find that data exists only for the Province of British Columbia as a whole.

- Different definitions - sometimes the definitions used by the agency doing the research are inappropriate for your needs. This issue often arises with the distance and length of stay criteria with tourism surveys.

SAMPLE INFOGLOBE OUTPUT

```
DOCUMENT 2  -  4 MORE TO BE SCANNED  -  PAGE  1 OF  4
::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::
851170074   SAT   APR.27,1985      PAGE: T8   (ILLUS)
BYLINE: ROBERT MARTIN
CLASS:*Travel*
DATELINE: HOPE, British Columbia                          WORDS: 764
::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::

                        ** B.C. Hell's Gate rapids **
                         ** watery 'certain death' **
By  ROBERT MARTIN
   Through the awkwardness of the men (my canoe) was run against a large
embaras (deadhead) in the middle of the River which broke the bow and
smashed all the pieces to the second bar, fortunately there was not much
water in the River and the channel was narrow. All hands jumped out and
pulled the wreck on shore before it had time to fill and sink. We lost

DOCUMENT 3  -  4 MORE TO BE SCANNED  -  PAGE  1 OF  10
::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::
851170146   SAT   APR.27,1985      PAGE: T1   (ILLUS)
BYLINE: LYN HANCOCK
CLASS:*Travel*
DATELINE: NANAIMO, British Columbia                       WORDS: 2299
::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::

                                  ** THE **
                                ** UNKNOWN **
                                 ** ISLAND **
                               BY  LYN HANCOCK
NANAIMO,*British*Columbia*
THERE'S MUCH more to Vancouver Island than Long Beach, Butchart's Gardens
and tea and crumpets at Victoria's Empress Hotel. "The Island," as British
Columbians call the largest of their province's millions of islands, is

DOCUMENT 4  -  4 MORE TO BE SCANNED  -  PAGE  1 OF  3
::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::
850650318   WED   MAR.06,1985      PAGE: T2
CLASS:*Travel*                     SOURCE: CP
DATELINE: Vancouver BC                                    WORDS: 398
::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::

                    ** Travel to Alaska big boon to B.C. **
VANCOUVER
A
 BOUT 200,000 Americans flock to the glaciers of the Alaska Panhandle each
year - and getting them there is a billion-dollar industry worth an
estimated $130-million in spinoff benefits to*British*Columbia.*
   Each summer the province provides the backdrop and the berthing
facilities for as many as 15 of the world's finest passenger ships sailing
the Inside Passage to Skagway.
END OF PRINT
TYPE NEW COMMAND
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      : 464
   )AT: 1971
  'NUM: C35.5/021                    SAMPLE:  TRDC OUTPUT
 JBDAT: /0085/
FREQUY: ANNUAL
 'HCAR: 03
 JHDES: 014
DOCTYP: GL
CONFID: P
LANGUA: ENGLISH
TITLE : IN-CANADA PROGRAM: MARKETING PLAN
AUTHOR: /CAN//ITC//CGOT/
SPOPUB: /CAN//ITC//CGOT/
ADDRSP: 150 KENT ST OTTAWA, ONT K1A 0H6
LOCATI: TRDC/CRDT
REMARK: 1973/74 PROGRAM IS TITTLED "SITUATION REPORT IN CANADA PROGRAM" AND
        SITUATION REPORT + MARKETING PLA
DESCRI: /CAN//DOMESTIC//GOVERNMENT//TRAVEL +
        TOURISM//PLANNING//MARKETING//BUDGETS//PROGRAMS//RESEARCH//PROMOTION//:
        VELOPMENT//OBJECTIVES//ADVERTISING//EVALUATING/
ENTDAT: 1976-12-01
```

DIALOG File 1: ERIC - 66-84/AUG

(Dec 1982)
EDRS Price: MF01/PC06 Plus Postage
Language: English
Document Type: NEW CLASSROOM MATERIAL (055)
Geographic Source: U.S.; North Dakota
Journal Announcement: RIEJAN83
Government Related

This counselor handbook is intended to help Service Corps of Retired Executives/Active Corps of Executives (SCORE/ACE) counselors to plan and conduct counseling services more effectively. Included in the introductory section are an overview of the SCORE/ACE counseling program, a discussion of what the counselor does, directions for completing counseling reports, suggestions for overcoming counseling barriers, and a checklist of effective counseling techniques. Next, a counselor checklist is provided that contains questions on topics such as market evaluation, merchandising, pricing policies, sales development, seasonal variations, location, layout, recordkeeping, financial management, credit policies, and personnel policies. Addressed in a section on business statement analysis are the managerial uses of accounting statement analysis and ratios, formulas for the ratios, break-even analysis, cash management, and cash-flow tools. A business plan working outline is provided along with an examination of how a business plan helps small business owners and managers. Concluding the guide is a section of counseling information that consists of lists of Small Business Administration counseling assistance programs, additional sources of counseling information, and offices to contact when planning a business. (MN)

Descriptors: Accounting; Budgeting; *Business Administration; Capital; Check Lists; *Counseling Techniques; *Counselor Role; *Entrepreneurship; Money Management; Planning; Postsecondary Education; *Small Businesses

Identifiers: Cash Flow; *North Dakota; *SCORE ACE Program; Small Business Administration

EJ226134 CE034909
An Exploratory Analysis of Job and Life Satisfaction among Entrepreneurs.
Lyons, Paul R.; DeCarlo, James F.
Feb 1983 (8p.)
EDRS Price: MF01/PC01 Plus Postage
Language: English
Document Type: RESEARCH REPORT (143)
Geographic Source: U.S.; Maryland
Journal Announcement: RIEJAN83

An exploratory study examined the job and life satisfaction of a sample of 33 female entrepreneurs residing in the tri-state area of Maryland, Pennsylvania, and West Virginia to compare the entrepreneurs' concepts of life and job satisfaction to those of women in more traditional occupations. Researchers also studied a sample of 33 female nursing supervisors from three hospitals in New Jersey and Maryland. The researchers administered the work, people, and pay scales of the Job Descriptive Index (JDI) to both groups. While the entrepreneurs scored higher than the nursing supervisors on the work and people scales of the JDI, they scored lower on the pay scale. In addition, the entrepreneurs scored higher than the nursing supervisors on the global measures of job and life satisfaction, although the mean differences on these items were not significant. Based on their findings, researchers called for additional research to arrive at more definitive statements concerning the nature of relationships between job satisfaction and life satisfaction among entrepreneurs. More specifically, they suggested that future research efforts use a larger sample of female entrepreneurs, employ a measure to screen for success, and utilize a longitudinal approach. (MN)

Descriptors: Adults; Comparative Analysis; *Entrepreneurship; *Females; Income; Interpersonal Relationship; *Job Satisfaction; Life Satisfaction; *Nurses; Research Design; Research Needs; Supervisors

Identifiers: *Job Descriptive Index; Maryland; New Jersey; Pennsylvania; West Virginia

ED225006 CE034907
Technical Education in the Enterprise Zone.
Friedman, Howard
7 Dec 1982 (4p.; Presented at the American Vocational Education Convention (St. Louis, MO, December 7, 1982).
EDRS Price: MF01/PC01 Plus Postage.
Language: English
Document Type: POSITION PAPER (120); CONFERENCE PAPER (150)
Geographic Source: U.S.; New York
Journal Announcement: RIEJAN83

Support is growing for the concept of the enterprise zone. Congress has before it a bill, the Enterprise Zone Tax Act of 1982, that would provide incentives and create a climate in which entrepreneurs and business executives would locate businesses in areas of pervasive poverty and unemployment. A potential urban enterprise zone in New York City is the South Bronx. The program's major thrust would be economic development and coordinated employment training in which vocational and technical education could play a vital part. Assuming that high technology companies and plants would relocate in the area, a challenge would be for vocational-technical education to prepare local inhabitants for jobs other than those at the lowest level and in the service sector. The current technological revolution is based on advances and changes in information processing as well as creation and distribution. Entry workers would be required to have a minimum level of technical ability, experienced workers would have to regularly upgrade skills or acquire new ones. The educational system must adapt to the changes to support the economy. Alternatives to extensive retraining of instructors would be hiring instructors from business and industry or having vendors provide inservice training on state-of-the-art practices. (YLB)

Descriptors: Adult Vocational Education; *Economic

(Cont. next page)

DIALOG

SAMPLE DIALOG OUTPUT

- Not up to date - the data may not be current.
- Problems with accuracy - depending on the agency who conducted the original research, the data may not be very accurate.
- Confidentiality of data - if the sample size is small, specific data requests may not be possible. Most agencies ensure confidentiality; therefore, sample sizes must be sufficient to ensure individual respondents may not be identified.

Sources of Secondary Data

LSDB
Leisure Studies Data Bank
Waterloo (1-519-885-1211)
Contact: Terry Stewart or Silvia Wright

- Data bank holdings include a variety of recreation and tourism related topics.
- Located at the University of Waterloo, Waterloo, Ontario.

Statistics Canada
(Source: Statistics Canada Catalogue)
Statistics Canada collects information on a wide variety of tourism subject areas. The catalogue, identified above, indexes all the Statistics Canada publications. Statistics Canada produces a variety of data relevant to the tourism industry.

Tourism Canada
Contact: Blair Stevens, Director General
Tourism Canada produces a wealth of data regarding both domestic and international travel patterns. Most of the reports are available free or for a nominal charge. Contact Tourism Canada directly for information.

CTRI
(Canadian Tourism Research Institute)
Contact: David Redekop, Director
A newly formed agency formed as a result of the Task Force on Tourism Data. The Institute provides information services to its members. Information services are available on-line or through special request. Contact David Redekop directly for more information.

4.3 OBSERVATION

- May use either mechanical (i.e. video cameras) or human observers to collect data.
- May be done in conjunction with a personal interview.
- Examples: Traffic counts (human or vehicular), or license plate counts, products owned by householders, inventories, television ratings, etc.

Advantages

- In most cases — relatively inexpensive.
- Can collect very specific information.

Disadvantages

- Limited amount of information.
- Behaviour may be influenced if sample members are aware of being observed and of the reasons for the observations.
- Person doing the observation may lose objectivity, particularly if they are observing sample members for long periods of time.

4.4 EXPERIMENTS/PRODUCT TESTING

- Laboratory study under controlled conditions.
- May be given to an individual or group.
- Examples: Product testing, evaluation of advertising, psychological experiments.
- Most common type of experiments are product testing and advertising pre- and post-tests to measure changes in awareness.

Advantage

- Provides very specific information.

Disadvantage

- Can be costly and time consuming.

4.5 FOCUS GROUPS

- Consists of informal questioning of an individual or a group.
- Group size 6 to 10, 6 to 12 persons.
- Several focus groups are usually conducted over a short period of time (2-3 weeks).
- Success of this method depends on the skill and interpretation of the interviewer.

Advantages

- Assists in questionnaire design when exploratory information is required.
- Recommended when complex attitudes are involved and when one's knowledge of these attitudes is still in a vague and unstructured form.

Disadvantages

- Results cannot be projected to the target population; therefore, focus groups should be followed up with quantitative research.
- Some members of the group may have strong influence on other members' discussion.

4.6 INQUIRY RESEARCH

- Monitors the frequency and volume of requests - usually information.
- Used extensively in the travel industry to monitor information requests.

Advantages

- Very easy to implement (e.g. travel counsellors or front desk staff may collect and tabulate data).
- May generate potential mailing list for direct marketing or future research.

Disadvantage

- Provides very limited data.

4.7 SURVEYS

Survey Types: Telephone Interviews
Mail Questionnaires
Drop-off Questionnaires
Diary Surveys

- Choice of survey type depends on cost, timing, the population, type of information required, amount of information required, quality of data required, projectability of results and ease of administration.

Personal Interview

- Consists of face-to-face questioning of respondents by interviewers.

- Usually structured (i.e most questions are designed as close ended, although they may be posed as open-ended questions).

Advantages

- If respondent does not understand a question, interviewer can repeat it or explain it.
- Usually gives highest response rates.
- Personal motivation can be provided to respond in an accurate and complete manner.
- Responses can be coded by interviewers during the interview.
- Sensitive questions may be asked (people are more likely to provide information to personal questions when asked face-to-face).

Disadvantages

- Geographic bias — this type of bias often occurs with people living in remote areas or undesirable neighbourhoods. Because personal interviews are so costly, quite often people living in remote areas are excluded from the sample as the cost of reaching these individuals may be prohibitive. People living in undesirable neighbourhoods are also often excluded from the sample as it is difficult to recruit interviewers willing to work in these neighbourhoods.
- Interaction exists between interviewer and respondent which may cause bias (should be preceded by careful interviewer training).
- Costly — personal interviews are one of the most costly data collection methods.
- Requires a large staff to conduct the field work.

Telephone Interview

- Consists of one-to-one questioning of respondents by interviewers.
- Usually structured — telephone interviews primarily consist of closed ended; pre-coded questions.

Advantages

- Less expensive than the personal interview.
- Response rates are moderately high.
- Can reach persons who are otherwise relatively "unreachable" (i.e. people living in remote areas or undersirable neighbourhoods).
- Wide geographic coverage is possible.
- Quick results — turnover can = 24 hours.
- Can contact specific individual within the household.
- Can probe on open ended questions which leads to higher quality responses.
- Can exercise complete control over question order.
- Can ensure questionnaire is completed as best as possible.
- Can handle large numbers of screened questions.

Disadvantages

- Amount of information to be gathered may be limited — interview must be short (ideally five to seven minutes).
- Interviewer bias can occur (should be preceded by interviewer training).
- Requires a number of personnel to conduct the field work portion of the study.
- Sample may be limited to listed telephone numbers, if telephone directories are used as the sampling frame.

Mail Questionnaire

- Highly structured, self administered survey (most questions are closed ended).

Advantages

- Less expensive than personal interview - about equal to — or slightly less than the telephone interview.
- Avoids geographic bias and may reach people who are otherwise unreachable.
- Easy to administer/low staff ratio required.

Disadvantages

- Type and amount of information that can be obtained is limited (questionnaire should be between four to six pages in length).

- Time period required for data collection is long (minimum six to eight weeks).
- Control as to who completes the questionnaire may be difficult or impossible.

Drop-Off Questionnaire

- Questionnaire is dropped-off by an interviewer at a household/business/institution to be completed by respondent and picked up at a later date by the interviewer (usually within 24 to 48 hours).

- Relatively structured questionnaire.

- A personal interview may be combined with the questionnaire.

Advantages

- Response rates are relatively high.
- Relatively quick turnover period.

Disadvantages

- Costly.
- Geographic bias (see personal interview section for description of geographic bias).

Diary Surveys

- Types of Diaries: Trip, purchase diaries and media exposure diaries, etc.

- Type of journal record that is arranged so that the respondent can easily and accurately record his/her behaviour over a specified period of time.

Advantages

- Useful when a recall method is not feasible, particularly for expenditure data.
- Provides detailed, specific information.

Disadvantages

- Quite costly.
- Long time period required for data collection.
- Difficult to administer, many call-backs are often required.
- High attrition rate.

5.0 SPECIFIC GUIDELINES FOR MAIL QUESTIONNAIRES AND TELEPHONE INTERVIEWS

5.1 INTRODUCTION

Because mail and telephone interviews are used most frequently by tourist agencies and industry members, detailed guidelines regarding the development and implementations procedures of these date collection methods have been detailed in this section.

The guidelines for mail questionnaires may be employed for developing most self-administered questions and the guidelines for telephone interviews may be used as general guidelines for developing other types of interview schedules. Details regarding question types and common errors in questionnaire design are applicable to questionnaire instruments in general.

Types of Questions

Open Ended Questions

- Respondent answers in his/her own words.
- Open ended questions may find out:
    1) problems, concerns and suggestions of respondents.
    2) respondents' feelings about issues.
    3) respondents' knowledge.
    4) respondents' *memory.**

Closed Ended Questions

- Response categories are provided by the researcher.

** Open ended questions do not provide any prompts and are therefore able to measure "top-of-mind" awareness.*

Types of Closed Ended Questions

Nominal Scale Questions

Are questions which do *not* measure amounts or relative strengths of responses. The response categories do *not* have any logical order or relationship to each other:

e.g. Yes/No Male/Female

Rules for constructing nominal scales include:

1) Provide an exhaustive list of response categories i.e. include other, don't know and refused categories.
2) categories of responses must be mutually exclusive.

Checklists:

Are a type of nominal scale question. A checklist question is used when there is *more than one* alternative that may be correct for the respondent (i.e. multiple responses).

Rules for constructing checklists include:

1) the list should include all possible answers.
2) the length of the list should be limited to 8 to 10 response categories.

Ordinal Scale Questions

- The main characteristic of an ordinal scale is that the categories *have a logical (ordered) relationship to each other.*
- Ordinal scales can be used to collect factual information.
- They are also used to find out about people's opinions.

Rules for constructing ordinal scales include:

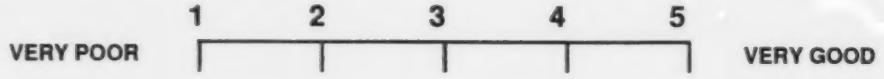
1) the provision of four or five alternative response categories.
2) the inclusion of the same number of positive and negative statements.
3) presentation of the response categories in a logical order.
4) inclusion of mutually exclusive categories.
5) insurance of an exhaustive list of responses.

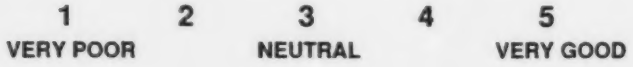
Types of Ordinal Scale Questions

• Rating Scales:

Can be used to measure *people's reactions, opinions and feelings* on an issue or event.

Examples of rating scales include:





1 Very Good
2 Good
3 Neutral
4 Poor
5 Very Poor

• Sementic differential (a specific type of rating scale):

Hot ———— Cold
Sweet ———— Sour

• Rank Order Questions

Ask respondents to prioritize their responses in order from highest to lowest or most important to least important etc.

• Interval Questions

The main characteristics of interval scaled questions include a logical ordering of categories and an equal distance between categories. Interval level questions are quite often used to measure age and income levels of respondents.

Rules for constructing interval level scales include:

1) Ensurance that each category is of equal size (i.e. 10 years, or 5 thousand dollar units etc.).
2) All categories should be mutually exclusive (i.e. no overlapping categories).
3) Categories should be listed in a logical order (i.e from lowest to highest or highest to lowest).

5.2 COMMON ERRORS IN QUESTIONNAIRE DESIGN

There are several common errors made by researchers when developing questionnaires. These errors should be avoided as they create problems with the credibility of the entire research project.

These common errors are easily avoided through awareness, careful reviewing of the questionnaire instruments and pre-testing. Descriptions of these common errors have been provided on the subsequent pages as well as examples to assist you in avoiding similar mistakes in the design of your questionnaire instrument.

Loaded Words

- Loaded words are words that stir up immediate positive or negative feelings.

  E.G. CRASHED VS CONTACTED

  How fast was car "A" going when it crashed into car "B"?

  How fast was car "A" going when it contacted car "B"?

Loaded Response Categories

- Occurs when there is an uneven distribution of positive or negative response categories.

  E.G.
  How would you rate this session?
  Excellent
  Very good
  Good
  Fair

- This question should be posed as:
  "How would you rate this session?"
  Very good
  Good
  Satisfactory
  Poor
  Very poor

Loading The Entire Questionnaire

- When the questionnaire is written, the questionnaire reflects a bias on an issue.
- Only one side, either the positive or the negative, is measured by the questionnaire.
- Loaded questionnaires are frequently developed unintentionally when the researcher is attempting to substantiate his/her point of view.

Leading Questions

- When the researcher directs the respondent to reply in a certain way.

E.G.
How did you enjoy this session?

- Influences people to respond positively to this question.
- This question should be posed as:

"How would you evaluate this session?"

Vague Words And Phrases

- Does not ask for specific information.

E.G.
How often do you exercise?
Never
Sometimes
Often
Always

- Should be quantified.

On average, how often do you exercise weekly?
1-2 times per week
3-4 times per week
Every day

Offensive or Threatening Questions

- Personal questions.
- The two most common personal questions asked are:

Age

Income

- To make these questions less threatening, we ask them as interval level questions.

E.G.
Instead of asking "How old are you?"

Ask: "Please check the category that best reflect your age"

21 - 30 yrs.
31 - 40 yrs.
41 - 50 yrs.
Etc.

Inappropriate Questions

- All questions that are "nice to know" but are irrelevant to the purpose of the study.
- Inappropriate questions are to be guarded against!
- Usually posed by enthusiastic researchers who wish to answer every possible question that they may ever need to know in their study.

Avoid Complex Questions

- Questions that are mentally taxing.

E.G.

How many library books did you take-out during 1986?
How much money did you spend on magazines this year?

- Instead these questions should be posed within an easy to calculate, specific timeframe.

E.G.
How many books do you borrow from the public library on a weekly basis?
On the average how much money do you spend on magazines per month?

5.3 QUESTIONNAIRE CONSTRUCTION

Main Considerations For Self-Administered Questionnaires

- The questionnaire must include questions on all subjects which are essential to the project; it should contain all the important questions on these subjects, but none which are not purposeful.
- The questionnaire should appear brief and "easy to complete". Reading it should not destroy this first impression.
- The reader must be made to feel that he is participating in an important and interesting project.
- The form should not contain any questions which could bias the answers.
- It must be designed to elicit clear and precise answers to all questions.
- Phrasing, structure and layout must be designed with the problems of tabulating in mind. The saving of time and money in data processing should be one of the considerations in designing the questionnnaire.

GUIDELINES FOR SURVEY DEVELOPMENT TO ENSURE COMPLETENESS AND RELEVANCE

- Make a list of all possible subjects — within each subject area — list the variables and then, the possible questions.
- After this has been done, pare the questionnaire down to the essential questions.
- Match response categories wherever possible with previous surveys to facilitate comparable analysis — don't try to re-invent the wheel.*

* Statistics Canada surveys are good sources of questions — particularly demographic questions like income, age, occupation etc.

TO ENSURE THE "SHORT AND EASY LOOK":

- Your questionnaire should look easy to fill out and it should be easy to read.

SIZE: - in general the rule of thumb regarding paper size is *the smaller the better.*
- folding your paper is one technique you may use to reduce the paper's size.

NUMBER OF PAGES : - rule of thumb — *the fewer the pages, the higher the return.*

LAYOUT CONSIDERATIONS: - do not overcrowd your page — provide as much white space as possile.
- multiple columns of boxes — should be kept to a minimum.

- be consistent with respondent's space for answering to the right of the response category is recommended as the respondent reads from the left to right.

- sectionalize questions to avoid high question numbers (i.e group questions according to similar content areas e.g. travel habits travel planning, demographics, etc.). Sections should be headed with a friendly title like "some questions about you".

PAPER AND PRINTING : - colour - *conservative* is the key — avoid resemblance to junk mail.

- paper - the paper stock should be pleasant to look at and substantial to handle.

- printing - your questionnaire should look *professional.*

- flexibility is gained by varying type sizes *(laser printers have made this process very cost efficient).*

- self administered questionnaires are printed on both sides of the page.

5.4 THE MAIL QUESTIONNAIRE DESIGN CONSIDERATIONS

In addition to following the general guidelines for self-administered questionnaires, some specific guidelines have been outlined for your use in developing mail questionnaires. Mail questionnaires require specialized techniques, namely follow-up procedures, to maximize response rates. It is recommended, to ensure a good response rate, that the following components/techniques are included in your overall design of the questionnaire. These components/techniques are as follows:

1) The inclusion of a letter with the questionnaire package.
2) The inclusion of instructions on the questionnaire instrument itself.

(see exhibit 5-1)

3) Inclusion of an incentive (i.e. coupon or opportunity to win a prize).
4) Three follow-ups to the original mailing.

Descriptions of each of these sections have been presented in the following few pages.

The Accompanying Letter

The cover letter is the respondent's first introduction to the survey package. There are three important messages that must be conveyed through the covering letter to the respondent. These are as follows:

1) A description of what the study is about and its purpose (usefulness).
2) How the respondent was selected and why their response is important.
3) An assurance of confidentiality.

A copy of a sample letter has been presented as EXHIBIT 5-1, next page, as an illustration.

Exhibit 5-1

SAMPLE LETTER

Patron: The Honourable Pauline M. McGibbon

The Gryphon Theatre Foundation

113 Collier Street, Box 454, Barrie, Ontario, L4M 4T7 728-4613

We Want to Make
Gryphon Theatre
Better for YOU!

There has been much discussion regarding live productions and presentations by the Gryphon Theatre Foundation, and we are now asking for your help. Are productions and presentations meeting the needs and preferences of the people in our community? Should different groups, productions and presentations be offered? We are conducting this study so that people within the community have a way to express their views to us.

It would be too costly to ask the opinions of everyone. So, we have selected a random sample of people on the Gryphon Theatre mailing list and asked them for their opinions. In order for this study to be truly representative, it is very important that EACH PERSON who receives a questionnaire completes and returns it to us as quickly as possible. Time is a critical factor.

Your answers will not be seen by anyone but the researchers. In order to help us establish the type of audience that we are catering to, the last part of the questionnaire deals with more personal information. However, your name will never appear on any part of the survey.

The results of this study will be made available to the Board of Directors of the Gryphon Theatre Foundation to assist them in planning future performances and presentations.

We would welcome any suggestions which you feel might be of further assistance because...

WE WANT TO MAKE GRYPHON THEATRE BETTER FOR YOU!

P.S. Because we sincerely appreciate your taking the time to assist us in this endeavour, please accept the 2 for 1 Gryphon Theatre coupon enclosed.

Instructions To The Respondent

Mail questionnaires should identify (through an instructions section) how the respondent is to complete the questionnaire. Do not expect the respondent to read your mind — indicate to the respondent how you would like him/her to mark the questionnaire instrument. A sample of instructions has been provided as an illustration in EXHIBIT 5-2, following.

EXHIBIT 5-2

INSTRUCTIONS

We thank you for taking a few minutes to complete this questionnaire, and urge you to be completely open in your responses. READ EACH QUESTION CAREFULLY. Most questions can be answered by circling the response that best represents your view.
The example below illustrates how to respond correctly.

Do you read magazines on a regular basis?

1. Yes
(2) No

Your response will be held in strict confidence and will only be used with other responses collected from other residents from Ontario and Quebec.

Your response will be useful in assisting the Newfoundland and Labrador government in providing a better tourism experience for visitors to Newfoundland.

Feel free to make any comments you wish about your opinions or ideas about Newfoundland. Space has been provided at the end of the survey for you to include any comments.

When you have completed the questionnaire, please return it in the envelope provided. Postage will be paid by the Government of Newfoundland and Labrador.

Thank you for your co-operation. We will enter your name in the draw as soon as we receive your completed questionnaire. Good Luck!

Inclusion of an Incentive

An incentive in the form of a coupon or an opportunity to win a prize is a good idea to increase response rates. A sample of a coupon has been included in EXHIBIT 5-3, below, for your information.

Laventhol & Horwath
Management Consultants · Chartered Accountants

Win A Weekend! Entry Form

Name _____ Title _____

Company (Organization) _____

Address _____

City: _____ Province: _____ Postal Code _____

Telephone (Bus.) _____ (Home) _____

Date of Birth _____

I acknowledge that I have read, understood, and agree to abide by the contest rules.

_____

Signature of Entrant

A 9199

FOLLOW-UPS TO THE ORIGINAL QUESTIONNAIRE PACKAGE

THE FIRST FOLLOW-UP

Most people who answer questionnaires do so *immediately after receiving them.*

- The post card reminder is written not to overcome resistance, but to jog memories and to re-arrange priorities.
- Timed to arrive just after the original mailing has produced its major effect, but before each person's questionnaire is buried under other mail.
- One week — appropriate interval of time after original mailing.
- Post card must make an appeal that conveys "a sense of importance"
  N.B. - it should not sound impatient or unreasonable.

How is the postcard worded? What are the content areas?

1. 1st lines — state that a questionnaire was sent to the respondent and why.

2. 2nd paragraph — contains crucial message
   - People who have already returned their questionnaire are thanked.
   - Those that have not, are asked to do so today.
   - Should be followed by a statement of how important each recipient is to the success of the study (re-iterated from the original letter).

3. 3rd paragraph — invitation to call (phone #) for a replacement questionnaire for those who did not receive the original questionnaire and for those who may have discarded it.

THE SECOND FOLLOW-UP

- Marked difference from previous mailings.
- Has a tone of insistance that previous contacts lacked.

1. Paragraph 1 - strongest aspect
   - recipients are told that their completed questionnaire has not yet been received.

2. Paragraph 2 & 3 - restatement of respondent's importance to the study.
   - social utility of the study is again emphasized.

- implied message - the usefulness of the study is dependent on the return of the questionnaire.
- the recipient is also reminded who in household is to complete the questionnaire, if applicable.
- obviously questionnaire has stronger sales pitch.

* *Must be careful not to over or under sell.*

3. Paragraph 4 - appreciation
   - 2nd follow-up may take the form of a post card or letter
   - 2 to 3 weeks after 1st mailing.

THE THIRD FOLLOW-UP

- Greatest intensity.
- Letter and replacement questionnaire.
- Send registered to emphasize importance of study — very effective in increasing response rates.
- If your budget does not permit, 3rd follow-up may use 1st class mail; however, this will impact on your response rate.

Content Areas

1. Paragraph 1 - Tie to previous communication
2. Paragraph 2 - Recognize importance of recipient
   - Why recipient is important
3. Paragraph 3 - Usefulness of the study
   - Importance of recipient to study's usefulness
4. Paragraph 4 - Why sent by registered mail
5. Paragraph 5 - Reminder, if applicable
6. Paragraph 6 - Appreciation

5.5 THE TELEPHONE QUESTIONNAIRE — DESIGN CONSIDERATIONS

Good mail questionnaires do not make good telephone interviews as they are inherently different. The telephone questionnaire relies totally on verbal communication; therefore, it must be designed with this in mind.

Telephone interviews are designed primarily for *interviewers* — the layout and design of the questionnaire is presented to facilitate the interview process. Keep in mind when you are designing the questionnaire that the respondent's cues come solely from a voice over the telephone; therefore, simplicity, logic, and consideration must be employed in developing the questionnaire.

Contrary to popular opinion, the telephone interview should be *short* (ideally five to seven minutes in length). Think about it. If you are contacted at home or work, how much time do you have available and are interested in providing to a telephone interviewer. Most respondents resent having their time wasted and this does not reflect well on you or the agency doing the research. Therefore, keep the interview as short as possible.

KEY DESIGN CONCEPTS

- word questions to "sound well" (read the questions aloud to yourself).
- use transition statements (i.e. now, we would like to ask you a few questions about ....).
- avoid lengthy questions (the respondent will not remember all the information).
- avoid too many response categories (again the respondent will not be able to remember - three choices are reasonable).
- incorporate response categories into the question (i.e. the choices are ....).
- group questions by topic (to ensure the respondent can follow the sequence of the questionnaire)
- ask important questions first (in case respondent loses interest).

- ask personal questions last (in case the respondent terminates the call).

- the first question must be applicable to everyone in the study, or some people will not participate.

- ask an open ended question near the beginning of the questionnaire, so the respondent is encouraged to participate — he/she will think you are interested in his/her views.

LAYOUT CONSIDERATIONS

- be consistent, remember you are designing the questionnaire to assist the interview.

- words that are not cued to respondents should be presented differently, i.e. upper case/bold/etc.

- instructions should be clearly delineated — boxed in, etc./bold writing, etc.

- screening questions should be indented (i.e. if yes, etc.).

- break pages where they will least interfere with the interview process.

- print the questionnaire on one side of the page only.

THE INTRODUCTION

- the interview should provide the following information to the respondent in the introductory statement:

  - his/her name;
  - name of company or agency and city from which he/she is calling;
  - purpose of study;
  - how respondent was selected; and,
  - the length of time of the interview

A few pages from a sample telephone questionnaire has been included for your information on the following pages.

I.D. # _____

INTERVIEWER: _____

DATE: _____

TIME BEGAN: _____

TIME ENDED: _____

Hello, my name is _____ and I am calling long distance from _____ on behalf of the _____ _____. We are conducting a short travel survey and we would like to ask you a few questions about vacation trips. You are one of a few _____ who have been selected to participate in this study and your response is very important to us.

May I have a few minutes of your time.

IF NO, THANK RESPONDENT FOR HIS/HER TIME AND TERMINATE CALL.

IF YES, CONTINUE WITH QUESTION 1.

1. Have you taken a vacation trip during the last 3 years?

1. YES
2. NO - (THANK RESPONDENT FOR HIS/HER TIME AND TERMINATE INTERVIEW)

1a. What was the final destination of your last vacation trip?

WRITE IN RESPONSE _____

_____

2. What form of transportation did you use to travel to this destination?

1. CAR
2. PLANE
3. BUS
4. TRAIN
5. CRUISE/BOAT
6. OTHER SPECIFY _____
7. REFUSED

3. What type of accommodation did you use on this trip?

1. HOTEL/MOTEL
2. RESORT/LODGE
3. RENTED COTTAGE/CABIN
4. OWN COTTAGE
5. TOURIST HOME/GUEST HOUSE
6. HOMES OF FRIENDS/RELATIVES
7. CAMPGROUND/TRAILER PARK
8. OTHER — SPECIFY _____
9. REFUSED

IF (2) IS MENTIONED GO TO 3a NEXT PAGE

4. What was the length of this trip?

WAS IT ...

1. A DAY TRIP
2. A WEEKEND TRIP
3. ABOUT A WEEK IN LENGTH
4. ABOUT 2 WEEKS IN LENGTH
5. MORE THAN 2 WEEKS IN LENGTH
6. REFUSED

READ CATEGORIES

3. (a) Why did you choose a resort vacation?

_____

3. (b) What was the name of the resort at which you stayed?

_____

3. (c) Why did you choose to spend your vacation at

_____ ?
(GET NAME FROM 3 (b))

_____

_____

RETURN TO QUESTION 4

PREVIOUS PAGE

5. Which season during the year was this trip taken?

1. SUMMER
2. FALL
3. WINTER
4. SPRING
5. REFUSED

6. How many pleasure trips have you taken during the last 12 months?

0. 0 TRIPS
1. 1 TRIPS
2. 2 TRIPS
3. 3 TRIPS
4. 4 TRIPS
5. 5 TRIPS
6. 6 OR MORE TRIPS
7. REFUSED

6.0 SAMPLING

6.1 KEY CONCEPTS OF SAMPLING

- When you cannot, or do not want to, survey all the population, use a sample.
- Use results from your sample to estimate the results that could have been obtained from surveying the whole population.
- Your estimated population results can never be 100% accurate so you choose the level of confidence you need.
- The 95% and 90% levels of confidence are those most frequently used in tourism research. To achieve a 99% confidence level, one must increase the sample size substantially; therefore, this level of confidence is not used as frequently in social science research.
- Statistical tables for various confidence levels will show you how wide a margin of error you will have with different sample sizes and the required sample size for different population sizes.

6.2 TYPES OF SAMPLING

There are two major groups of sampling procedures. They are:

1) Probability Sampling Procedures; and,
2) Non-Probability Sampling Procedures.

6.2.1 Probability Sampling

Probability Sampling is based on the principal of *randomization*. It is characterized by the fact that every unit of the population has a calculable probability of being selected in the sample.

There are *four* major groups of probability sampling. These are as follows:

Simple Random Sampling is a procedure that selects elements from the study population on a random basis. Examples of simple random sampling would include selecting names from a hat or a random list of numbers generated by a computer.

Systematic Random Sampling involves selecting sample elements from a list using a consistent selection interval, e.g. every "nth" element is selected. The sampling interval is normally selected by dividing the total population by the sample size.

Stratified Random Sampling is a sampling method which groups elements of the population based on some criteria, i.e. age, sex, place of residence, etc. Sample selections are made from each sub-group and the total sample is comprised of all the sub-groups. The type of sampling ensures accurate representation from the sub-groups desired. For example, if you wish to ensure that 10 percent of your sample population is 65 years of age or over, stratified sampling ensures this representation.

Cluster Sampling is based on the premise of heterogeneous grouping. Cluster sampling divides the total population into groupings usually based upon a geographical division, and then selects the cluster or a number of clusters to represent the entire population.

6.2.2 Non-Probability Sampling

Non-probability Sampling Procedures are used when time and budget constraints do not allow one to utilize representative sampling procedures, or when measures of statistical reliability and accuracy are not required.

Non-probability sampling techniques are as follows:

Judgemental Sampling: This type of sampling procedure relies on the judgement of the researcher. Judgement may be exercised in selecting the "average visitor" by visual characteristics, i.e. age, sex, style of dress, etc.

Purposive Sampling: The selection criterion for this type of sampling procedure is derived from the objectives of the study. For example, a study that is conducted to determine the training needs of the resort industry may involve sampling owner/operators from a small number of resorts. Owner/operators should be knowledgeable of their staff's training needs. Purposive sampling is simply selecting people on the basis of their reputation, (i.e known experts or persons holding a formal position within an organization.

Quota Sampling: This is a type of non-representative sampling based on the premise of proportionate distribution. Sampling is conducted to match characteristics of the population to the sample, i.e. age, sex, etc. Percentage proportions of the population are identified and matched to the sample.

Census Surveys Vs. Sample Surveys

CENSUS SURVEYS: Refers to the collection of information about characteristics of interest from all units in a population.

SAMPLE SURVEYS: Refers to the collection of information from only a part of the population.

6.3 HOW TO SELECT THE MOST APPROPRIATE SAMPLING METHOD

The sampling method you use for your study is based on three considerations:

- Time;
- Budget; and,
- Statistical accuracy requirements.

If statistical accuracy is not a major requirement of the study, a non-probability method is appropriate. If accuracy is required, a probability or representative sampling technique is necessary.

There is "no best" sampling method and therefore, the sampling method is left to the discretion of the researcher. Quota sampling is used quite often by researchers who wish to get a "snap-shot" picture of a community, but do not have the resources to employ a representative sampling technique. Purposive and judgemental sampling are often used in industry to assist with decision making.

With regards to representative sampling, systematic random sampling is one of the more popular sampling methods due to its simplicity. If stratified or cluster sampling is desired, one may wish to employ the services of a statistician to ensure one is following the correct procedures.

Descriptions of each sampling method has been presented in the following few pages. These descriptions will assist you in developing your sampling frame and sampling procedures.

Purposive Sample

- Selection based on criterion developed by the researcher.
- People are selected on the basis of their reputation, i.e. known experts, or by their formal position in an organization, i.e. manager of a department.

Judgement

- Selection based on judgement of the researcher.
- When they identify people who appear to be average or a typical respondent, e.g. your "average" shopper.

Quota

- Based on the idea of a proportionate sample.
- When you match gross characteristics of your population in your sample, i.e. age, sex, etc.
- Control characteristics are identified and proportions are selected.
- Used when your research budget is limited.

Probability Sampling

Based on principle of randomization.

- Characterized by the fact that every unit of the population has a calculable probability of being selected in the sample.

Simple Random Sampling

- Elements are randomly selected from the study population.
- Elements are selected purely at random, e.g. selecting names from a hat, generating random numbers from a computer, etc.

Systematic Random Sampling

- Involves selecting units from a list using a selecting interval — e.g. every "nth" element is selected.

- Requires a sampling interval and a random start.
- Normally, one calculates the sampling interval by dividing the total population by the sample size.
- Advantages of systematic sampling: - easier
  - tends to distribute sample more evenly over total population.

Stratified Random Sampling

- All sampling elements in the population are grouped according to some criteria, such as age, place of residence etc.
- Sample selections are made from each sub-group.
- The total sample is comprised of all the sub-groups.

Cluster Sampling

- Based on heterogeneous groupings.
- Usually divided on a geographical basis.
- The more heterogeneous the groupings, the more efficient the sampling method.
- Because clusters by their very nature tend to be similar, it is best to sample several small clusters than one or two clusters.
- Cluster sampling divides the total population into groupings usually based upon a geographical division, and then selects the cluster or a number of clusters to represent the entire population.

6.4 HOW TO CALCULATE SAMPLE SIZE

The rule of thumb for calculating sample size is the larger the sample size, the better. Generally speaking, for most research studies dealing with populations of greater than 25,000 people, a sample of approximately 400 persons is selected. This sample size is based on a 95% confidence level with a 5% margin of error (see EXHIBIT 6-1, following). A table providing sample size estimates for various population sizes at the 95% confidence level has been presented as EXHIBIT 6-1.

In addition, a diskette has been developed to assist you in calculating sample size for various populations (see user guide). The user guide explains how to use the diskette and

how the formula may be applied to various research designs.

Remember that calculating sample size is only necessary when using probability sampling techniques. If one employs stratified or cluster sampling techniques, each cluster or strata must be treated as a separate population. Therefore, these types of sampling procedures usually require a substantial sample size.

For more information regarding "how to estimate sample size", please refer to the user guide.

6.5 SAMPLING ERRORS

Sampling errors are related to the difference between the sample and the population. A sample can provide only an estimate of a given situation; however, if probability sampling is employed, this estimate is measurable through measures of accuracy. The two measures of accuracy are as follows:

Confidence Levels: Identify how "confident" we can be in the results. Confidence levels are scientific measures based on study replication. In other words, if a study is repeated over and over again, how often willone see similar results. A 95% confidence level simply means that if the study was repeated 100 times, one would see similar results 95 times out of 100.

Margin of Error: Specifies how similar these results will be. A 5% margin of error means that if the study is repeated, one may see variations of +/- 2.5%. Therefore, if we stated that 50% of British Columbians took a pleasure trip in 1986 and we had a 5% margin of error, our study results may vary between 47.5% and 52.5% if the study is repeated.

EXHIBIT 6-1

SAMPLE SIZES FOR 95% CONFIDENCE LEVEL

(MARGIN OF ERROR +/- 2.5%)

POPULATIONS (N) FROM 50 UPWARDS

N Size of Population (or Strata)	Estimate of population proportion (p') .50 or	.33 (.67)	.25 (.75)	.20 (.80)	.15 (.85)	.10 (.90)
50	44	44	43	42	40	37
75	63	62	60	58	54	49
100	80	77	74	71	66	58
150	108	104	99	93	85	72
200	132	126	118	110	99	82
300	169	160	147	135	119	95
500	217	202	183	165	141	108
1,000	278	253	224	198	164	122
2,000	322	290	252	219	179	129
5,000	356	318	272	234	189	135
10,000	370	329	280	240	192	136
25,000	378	335	284	243	194	138
Much larger	384	340	288	246	196	138

7.0 ANALYSIS AND INTERPRETATION

7.1 INTRODUCTION

Analysis and interpretation are the research phases that are of greatest importance to the decision maker. The analysis and interpretation of research results are the phases of the project that respond to the decision problem. The interpretation of the research results must therefore be linked to the decision problem.

The analysis and interpretation phase of the research project have three separate sub-sections. These phases are as follows:

- Data processing;
- Data analysis; and,
- The presentation of the data.

Each of these sub-sections have been described in the following few pages.

7.2 DATA PROCESSING

Data processing may be done by hand tabulations or by machine. Tabulations processed by machine are usually most efficient as once the data has been input, many analysis variations may be utilized.

There are several computer packages on the market that have been designed for use with personal computers. These include: STATSPAC, SYSTAT, SPSS PC+, SAS and others. Most of these systems are user friendly and include functions for data input (including the development of code books), data analyses, graphics and tables.

For details regarding these packages, one should request information from the individual suppliers.

7.3 ANALYSIS CONSIDERATIONS

Data analyses are the statistical applications that are applied to data to provide some measure of understanding. Descriptive statistics produced through FREQUENCY tables and CROSS TABULATIONS are the most common analyses techiques. FREQUENCY tables provide a tabulation of data for a single variable. *An example of a FREQUENCY table appears as EXHIBIT 7-1.*

EXHIBIT 7-1

Number of Pleasure Trips Taken During the Last 12 Months by Cleveland Respondants

	NUMBER	PERCENT
0 Trips	64	25.9%
1 Trip	45	18.2%
2 Trips	45	18.2%
3 Trips	37	15.0%
4 Trips	13	5.3%
5 Trips	9	3.6%
6+ Trips	33	13.4%
Refused	1	0.4%
TOTAL	247	100.0%

FREQUENCY tables provide a **COUNT** (the number of times each value has been reported) and percentage distributions (of each count). In addition, some FREQUENCY functions provide measures of central tendency (i.e. mean, median, and mode) and measures of variance (i.e. range, standard deviation).

CROSS-TABULATIONS provide two or three-way analyses of variables (see EXHIBIT 7-2, following). They enable analyses by various population sub-groups (i.e. age groups, educational groupings, etc.).

(see EXHIBIT 7-2)

CROSS-TABULATIONS provide counts and percentage analyses of the variables. In addition, various statistical tests may be requested of the statistical packages. Most of the computer packages provide descriptions of the available statistical functions. Please refer to these descriptions for details.

It is very important to remember your audience when planning your analysis. Descriptive statistics, namely frequencies and cross-tabs are most appropriate for most audiences. More detailed analyses may be selected for more sophisticated audiences.

EXHIBIT 7-2

CROSSTABULATION OF

VAR004 REGION BY VAR013 [illegible]

CONTROLLING FOR..

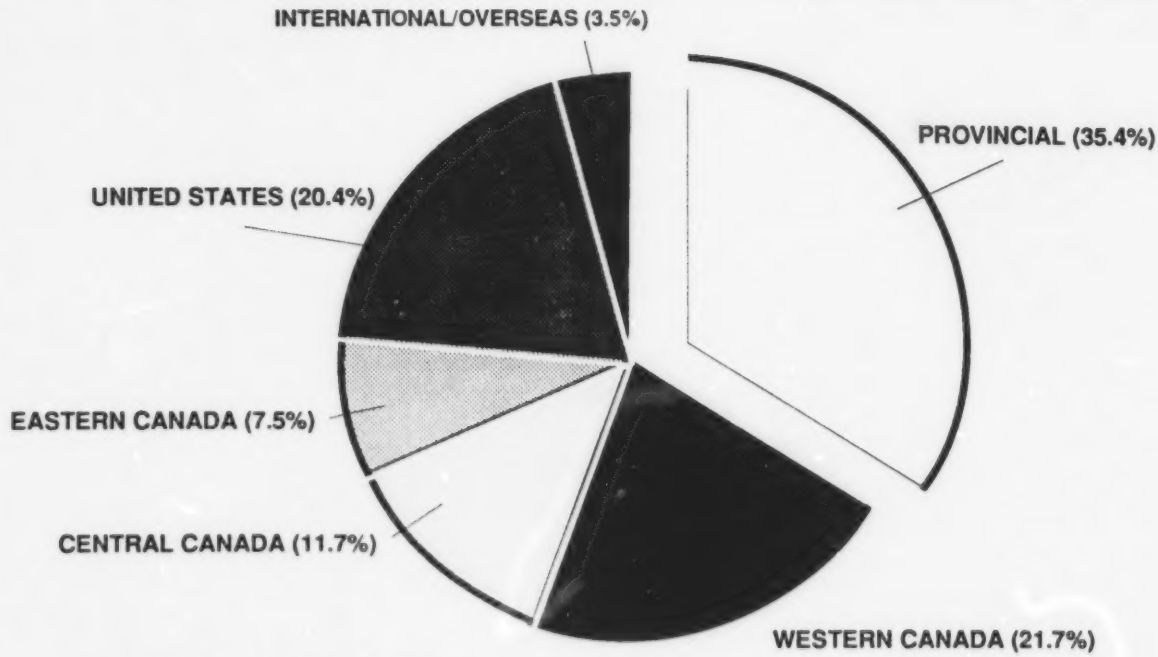
VAR020 SEX VALUE = 1.

VAR004	VAR013				
COUNT / ROW PCT / COL PCT	1 VERY IMPORTANT	2 SOMEWHAT IMPORTANT	3 NOT VERY IMPORTANT	4 NOT AT ALL IMPORTANT	ROW TOTAL
1 NEW ENGLAND DIVI	7 20.7 3.9	9 26.4 8.0	8 23.9 8.1	8 23.0 8.6	32 5.9
2 MIDDLE ATLANTIC	35 29.2 20.5	49 24.1 18.9	47 22.3 26.5	49 24.2 23.9	121 21.9
3 EAST NORTH CENTR	38 34.3 22.3	31 28.0 20.3	15 13.8 15.1	27 23.3 21.9	112 20.3
4 WEST NORTH CENTR	17 31.1 9.8	18 33.1 11.6	7 13.8 7.3	12 22.0 9.7	54 9.8
5 SOUTH ATLANTIC	17 27.2 10.2	17 26.3 10.9	16 25.0 15.6	14 21.8 11.4	64 11.7
6 EAST SOUTH CENTR	9 32.3 5.5	7 25.3 4.8	5 18.7 5.5	7 23.5 5.0	28 5.3
7 WEST SOUTH CENTR	29 48.9 17.0	15 24.0 9.6	8 13.4 7.7	8 13.9 6.0	60 10.9
8 MOUNTAIN DIVISIO	4 16.8 2.4	9 40.8 5.8	4 15.4 0.9	6 28.2 4.9	23 4.2
9 PACIFIC DIVISION	14 26.0 8.3	18 33.1 11.9	11 20.3 11.0	11 20.3 9.3	35 10.0
COLUMN TOTAL	172 31.4	154 28.0	103 18.7	122 22.2	550 100.0

7.4 PRESENTATION OF DATA

The presentation of data is very important. The way in which data is presented will impact on how the report is accepted and utilized. Data may be presented through text, tables, charts, and graphs. The presentation of data is dependent on the audience; however, the incorporation of visual techniques (i.e. graphs and charts) enhances almost all data presentations.

Examples of various graphic techniques (i.e. pie graphs, bar graphs, stacked bar graphs, and line graphs) and profile charts have been included as EXHIBITS 7-3 through EXHIBIT 7-7, as illustrations.

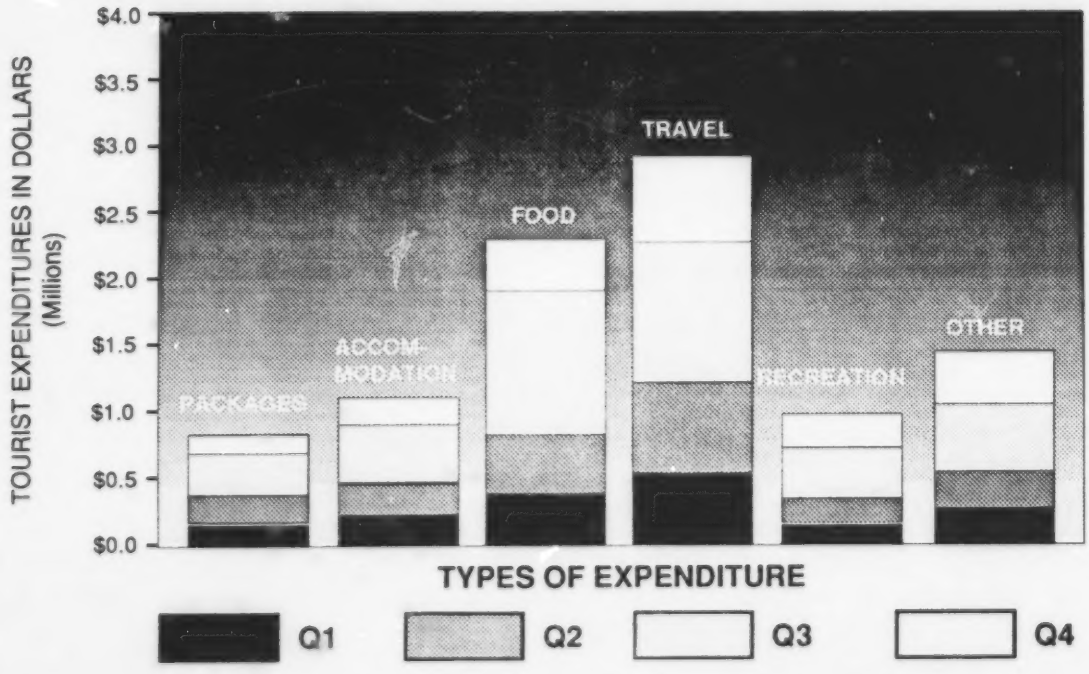


Origin of Tourists

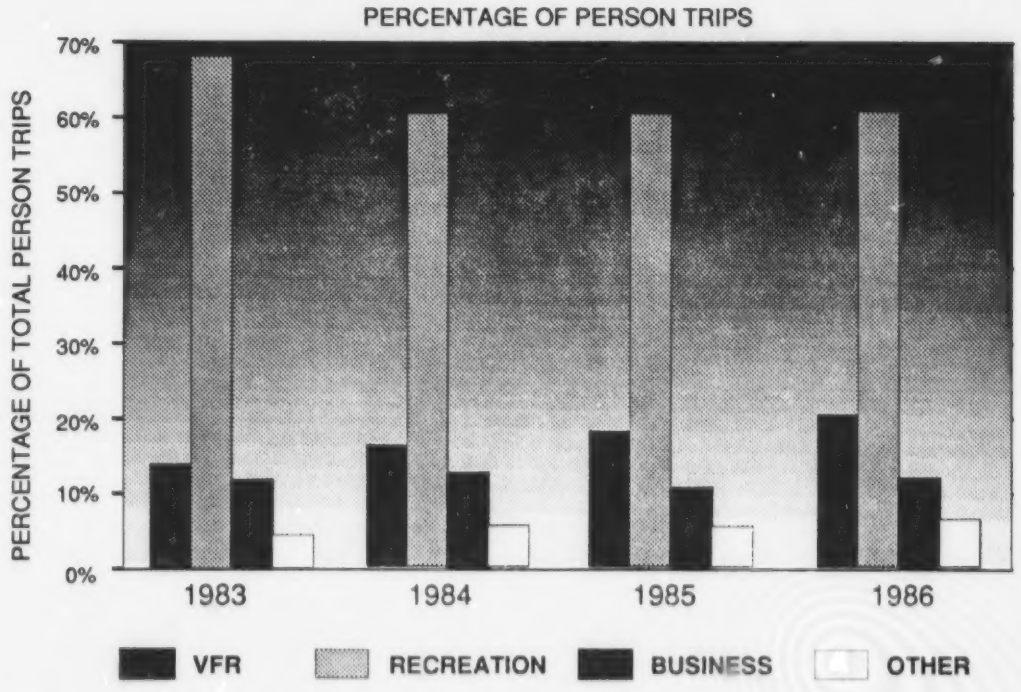
SOURCE: PROVINCIAL TRAVEL SURVEY, 1986

Type of Tourist Expenditures by Quarter

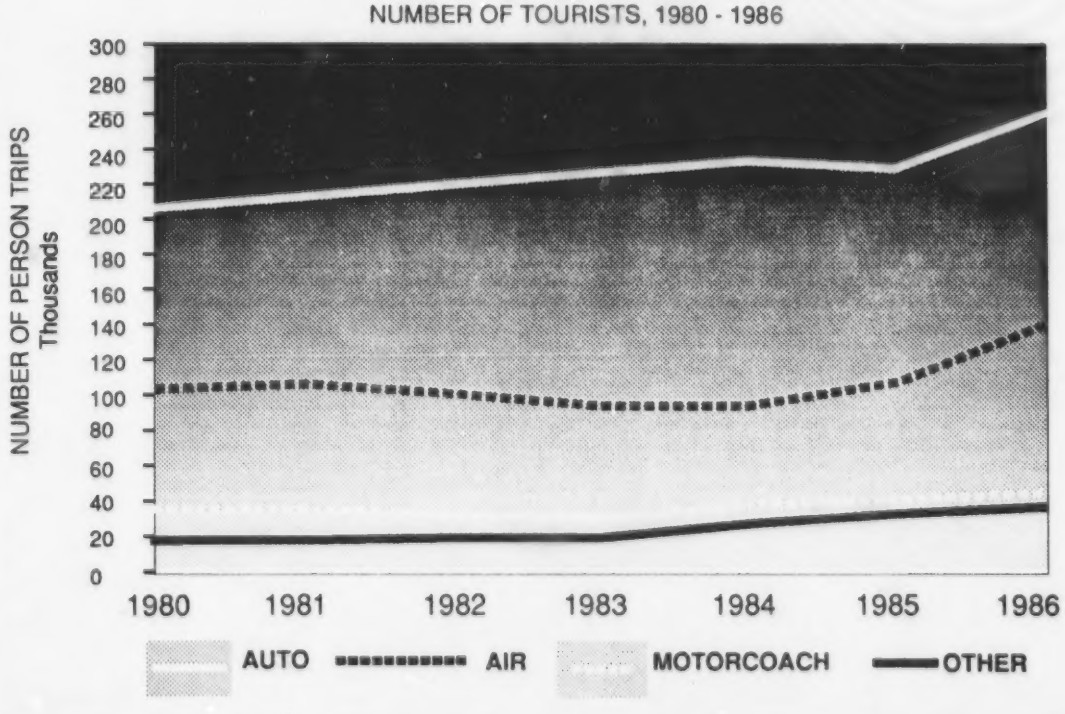
SOURCE: PROVINCIAL TRAVEL SURVEY, 1986



Main Purpose of Trip By Year



Mode of Transportation by Year



Age:

Sex:

Marital Status:

Personal Income:

Education:

Purpose of Trip:

Mode of Travel:

Length of Stay

7.5 THE FINAL REPORT

The final report is the final packaging of the information for the various audiences. Final reports should include the following sections:

1. An introduction: Which should include a review of the background of the study and decision problem.

2. Purpose of the study: Identifies the study's purpose and specific research objectives.

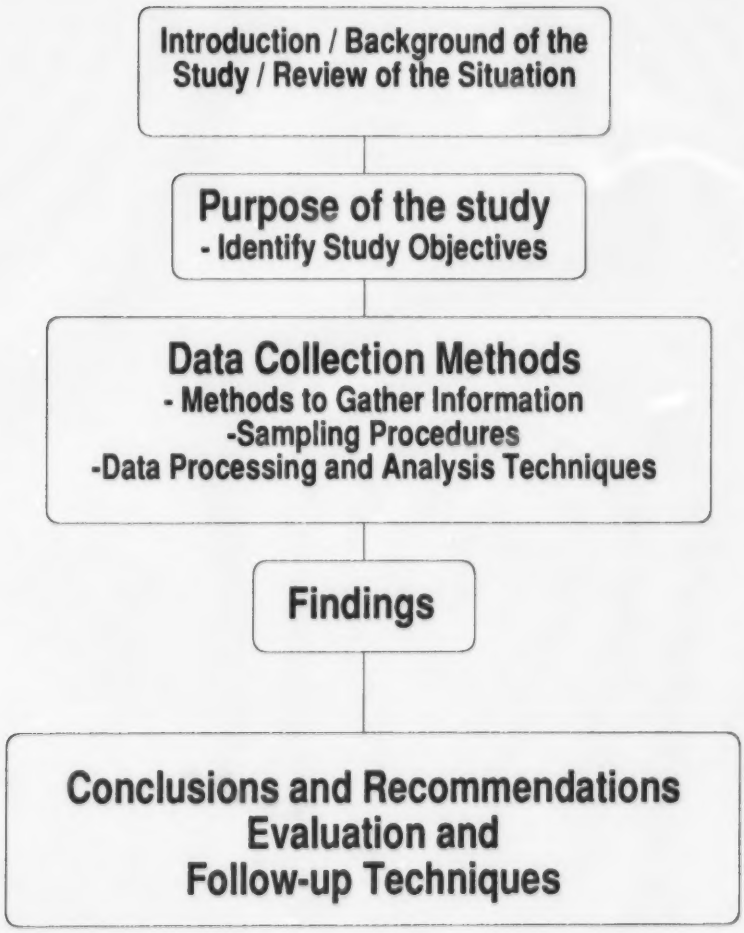
3. Methods: This section includes a description of the data collection methods, the sampling procedures and the data processing and analysis techniques.

4. Findings: Describes the data results. This section may be organized into various sections to respond to each of the research objectives.

5. Conclusion/Recommendations and Evaluation: This section of the report links the findings to the decision problem and makes recommendations regarding evaluation procedures and follow-up techniques.

In addition, the final report should include an Executive Summary which would detail the highlights of the study and Appendices with copies of the data collection instruments and detailed tables. *(For details regarding the report outline, see EXHIBIT 7-8, following.)*

RESEARCH PLANNING PROCESS



8.0 USING AN OUTSIDE RESEARCH SUPPLIER

Outside research suppliers may be used to design, conduct and analyze your study results. A description of the advantages of using an outside research supplier has been presented in this section. In addition, guidelines for using and supervising research suppliers have been included for your information.

8.1 ADVANTAGES OF USING A RESEARCH SUPPLIER

Advantages

1. The cost may be less than adding additional personnel and paying the other costs of an internal project.

2. The supplier costs to the user are a variable cost; whereas, internal personnel constitute a fixed expense — if workload varies in the department, outside suppliers can be used at peak times only.

3. Suppliers offer special skills not available internally.

4. Outside suppliers have greater objectivity and are usually not involved in the politics of specific problems.

8.2 GROUND RULES FOR USING AN OUTSIDE RESEARCH SUPPLIER

Supplier of research services can expect (terms of reference):

1. A statement of the general background of the management problem at hand.
2. A statement of the management problem.
3. A statement of the research problem and objectives and the uses of the research results.
4. A chance to discuss these problem statements and background.
5. A range of budget available for the project.
6. The desired timing of the project.
7. An assurance that they will be approached only when there is a reasonable expectation that they will be selected.

Buyer of research services can expect:

1. A company portfolio — details about the company's personnel and operating procedures.
2. A statement as to the specific personnel responsible for the project.
3. A detailed statement of the problem and research objectives to show they understand the problem.
4. A detailed description of the research design methods.
5. Cost estimate.
6. Critical path or schedule.

8.3 HOW TO IMPROVE RESEARCH QUALITY WHEN USING A RESEARCH SUPPLIER

1. Increase your involvement - at the decision-making level - especially at the beginning stages of the research. Indicate to the consulting firm that you wish to be actively involved in the research project.

2. Use suppliers with qualified personnel — ask for curriculum vitae of personnel to be involved with the project.

3. Review the supplier's data validation procedures (i.e. how do they validate completed interviews, how many interviews do they validate and how do they review their data processing functions?).

4. Maintain continual evaluation and individual assessment of your suppliers (keep an up-to-date file on research suppliers). Many organizations like the Travel, Tourism Research Association provide directories on research suppliers.

5. Use more than one supplier, compare the services of different research houses and management consulting firms (get a minimum of three quotations/proposals for research projects).

6. Ask the supplier's views on the implications of the research findings.

7. Get involved in the specifications of the tabulation (data analysis). Specify how you wish to use the information — what are the questions you need to answer with the data.

8. Consult with outside agencies about the reputation of the outside agencies under consideration (request a list of references from the consulting firm or research house).